PRN:	CourseCode:	PCA2042R

FirstYear **M.C.A.** End Semester(II) Examination winter 2024 000396

Design and Analysis of Algorihim

Day and Date: Tue 3 DEC 2024 Max Marks: **100**

Time: 02:00PM To 05:00PM Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Explain the term Algorithm with diagram and Example.	08	L2	CO1
	b)	Write an Algorithm for addition of N natural Number.	08	L2	CO4
		OR			
	b)	Show three types of Algorithm Representation with Example.	08	L1	CO4
Q.2		**Attempt the following**			
	a)	Define Time Complexity with Example.	08	L1	CO3
	b)	Explain the term Data structure with diagram.	08	L1	CO1
		OR			
	b)	Explain Space Complexity with Example.	08	L1	CO3
Q.3		**Attempt any two from the following**			
	a)	Discuss Asymptotic Notations with Example. a) Big Oh (O) Notation b)Big Omega (Ω) Notation c) Big Theta(Θ) Notation	08	L6	CO4
	b)	Calculate Time Complexity of Selection sort Algorithim.	08	L1	CO4
	c)	Tell the small Asymptotic Notations with example.	08	L1	CO2
Q.4		**Attempt any two from the following**			
	a)	Define recursion with example.	08	L1	CO2
	b)	Illustrate Dynamic Programming with proper example	08	L2	CO4
	c)	Solve Travelling Sale's man problem with Brute Force Algorithm.	08	L6	CO4
Q.5		**Attempt any Two of the following**			
	a)	Explain Backtracking with N-Queen problem where N=4.	09	L1	CO1
	b)	Solve Tower of Hanoi problem with Recurssion.	09	L6	CO2
	c)	Find Largest common Subsequence using Greedy Algorithm	09	L1	CO4
Q.6		**Attempt any Two of the following**			
	a)	Discuss Linear search Algorithm.	09	L6	CO3
	b)	Tell Array in Data Structure with example.	09	L1	CO4
	c)	Why Analysis of Algorithm is important.	09	L1	CO2

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